

[52 cont.]

773 Concerning the moon, I was told: "The moon was also
 821 carried by people. It was not as warm as the sun, but very heavy.
 So the men helped each other, and with great difficulty they
 brought it to the huts. The moon was a man. He said: 'I prefer
 to remain alone and do not wish to be among you.' Thereupon the
 Bushmen said: 'If you go alone into the desert, you will surely
 die.' But the moon did not obey, went out, and died. But then
 it woke up again and rose like the sun; therefore, like the latter,
 it is from the 'Great Captain.' When it disappears, it has died.
 When only one side of it is visible, then it is young. When it be-
 comes smaller, then it is old. The color of the moon comes
 from its gall (/gōo)."

The well-known story of the moon and the hare is told
 there as follows:

The moon once said to the hare: "I die and wake up
 again, you on earth should do the same." But the hare answered:
 "No, we cannot do that, we who are on earth, only you can do
 that because you are in the air, among us this is impossible; once
 we die, we do not wake up again." And the hare was right; it is
 still so today.

821 The eclipse of the moon, !nui dsao, is caused by the lions
 (825) so that they can more easily steal into the Bushman huts.

[53] Comets, X 'u !gam, are stars of the great captain;
 (777) they bring luck. When a shooting star, *gomma, falls, it is said,
 (787) just as among us, that someone has died. The stars are the camp-
 (775) fires of those spirits who at the command of the great captain
 come down and fetch the souls of the dying.

● (823) Earthquakes, X 'áno !gee, are omens of sickness. The
 (787) rainbow, !kháni !náo, indicates a good year for rain.

(782) What the Bushman begs and prays for is not sunshine but
 (776) rain. The great captain alone dispenses rain.

Lightning and thunder are not beings in themselves, but
 are caused by rain. When someone is killed by lightning, it is
 said: "The rain has killed him." When there are flashes of
 lightning and thunder at a distance, the rain is saying: "Today
 I shall thunder over the whole earth." When there are flashes of
 lightning and thunder on various sides, the clouds are speaking to
 one another. And when they touch each other with their heads, the

[53 cont.]

- 821 rain comes down and the clouds extend over the whole world. The rain that has come down to earth does not stay there; the clouds again come forth from the earth. The rain obeys the great captain. In a storm the great captain knocks down the trees. If a person says something bad about him, however, punishment is not long in coming. X 'u says to the rain: "You must now go and kill him." And the rain goes and kills the man with lightning. But when the great captain says to the rain, "You must go now and punish him," then the lightning merely strikes the windscreen so that the whole thing collapses and the evildoer is thrown out.
- (752) Then the people come running, rub the unconscious person with medicine, and burn his skin with red-hot pieces of wood until he comes to again.

Thus the angry great captain metes out punishment.

- 751 The Bushman concerned, however, is far from either privately or publicly begging the great captain for forgiveness. He is convinced that this would do no good. On the contrary, he puts his confidence in the following procedure: It is known that where lightning strikes quartz sand, so-called lightning tubes or fulgurites arise. This phenomenon has not remained hidden from the sharp eye of the Bushmen. My friends told me: There where lightning has struck one usually finds a stone called "rain tooth." The person brushed by lightning scratches his skin with this stone, (224) rubs in medicine which is supposed to bring luck in hunting, and (777) tries to hunt down a gemsbok. If he succeeds, he cooks the meat of the gemsbok with the rain tooth. If there is a second person in the horde who has previously been brushed by lightning, that person must eat the meat with him. Then medicine is made from this meat and other ingredients, and this is placed in the horn of a small bushbuck and carried around the neck by the person concerned.

- 751 When the "rain" comes again, he again goes to the hut of the person struck, walks through the fire where the buck was cooked, takes a bone of the buck (these bones remain lying on the spot), and goes with it into the nearest tree. The bone cooks in the tree, and the scum comes out on the side and the fat below. When the rain has passed, the bone is again pulled out and cooked with gemsbok horn and duiker horn and flesh; then it is

FOREWORD.

X137
312 The Kalahari is not a sandy desert in the sense that it is devoid of
151 vegetation; it is the absence of surface water which makes the region such
a hazard to human habitation. It is the last refuge of the Bushman.
224 Primitive though he is, he survived in this inhospitable environment
823 owing to his acute powers of perception and his fine appreciation of the
124 gifts of nature. He is a skilled hunter with his bow and arrow and has an
intimate knowledge of the natural resources of food and water. Dr. Story
compliments him by saying that his knowledge was usually imparted
cheerfully and with humour and "always with intelligence".

121 The Division of Botany was grateful to accept the invitation for Dr.
Story to accompany the Harvard-Smithsonian-Peabody expedition of
1955. This was the fifth expedition of its kind and had as its objective
the further documentation of the way of life of the Bushman. Dr. Story's
assignment was to investigate the plants used by them in obtaining food
and water.

It is inevitable that, with the advance of civilisation, the remnants
of this interesting race will lose its intimate contact with nature and in the
end its very identity. Wishing to complete their records before this
happens the Harvard-Smithsonian-Peabody organisation, is, as we go to
press, returning on yet another expedition. The Division of Botany is
glad of this opportunity to continue the collection of data on the plants
of economic importance to the Bushmen in the Kalahari.

The balance in nature between supply and demand is of endless
interest to the ecologist. In times of plenty—when vegetation is abundant
—the animal population increases: in times of poverty—when the vegeta-
tion is reduced by the prevailing climatic conditions—the animal popula-
tion is reduced by the effects of hunger and thirst. So it is with the primi-
tive human, who is dependent for his survival on the animal and plant life
which surrounds him. Overpopulation at any time spells destruction for
him at a later date. It is obvious too, that primitive man must have had
a strong influence on the distribution and density of edible wild plants.
XC137 Some will have become more widespread and others less numerous. More
and more examples of rare species among the tuberous rooted *Asclepia-
daceae* have come to light during the botanical exploration of southern
Africa. It is felt that the edibility of these and some other tuberous rooted
plants, in a large measure, accounts for their sparse distribution.

Dr. Story's observations support this view, and many other interest-
ing facts are recorded in his preliminary report on the vegetable aspect
of the Bushman's diet.

R. A. Dyer,

Chief: Division of Botany and
Director of Botanical Survey.

Pretoria,

October, 1957.

105 the veld, changing their abode every few days in search of
 361 food. Because of their way of life, they do not need villages to
 live in, so they rarely bother to build strong shelters, making
 small domes of grass for themselves instead, just a little
 shade for their heads, grass which the wind soon blows away.
 Sometimes they do not even bother with this, but push little
 sticks into the ground to mark their places. They sleep beside
 the sticks and arrange their few possessions around them,
 symbols of their homes.

105 Although Bushmen are a roaming people and therefore
 361 seem to be homeless and vague about their country, each
 823 group of them has a very specific territory which that group
 621 alone may use, and they respect their boundaries rigidly. Each
 group also knows its own territory very well; although it may
 be several hundred square miles in area, the people who live
 there know every bush and stone, every convolution of the
 ground, and have usually named every place in it where a
 certain kind of veld food may grow, even if that place is only
 a few yards in diameter, or where there is only a patch of tall
 arrow grass or a bee tree, and in this way each group of people
 knows many hundred places by name. Even if you are travel-
 ing randomly with Bushmen and ask at any time on the jour-
 ney for the name of the place where you happen to be stand-
 ing, they will probably be able to tell you. They themselves
 always like to know exactly where they are.

105 The social structure of Bushmen is not complicated. They
 621 have no chiefs or kings, only headmen who in function are
 virtually indistinguishable from the people they lead, and
 sometimes a band will not even have a headman. A leader is
 not really necessary, however, because the Bushmen roam
 about together in small family bands rarely numbering more
 than twenty people. A band may consist of an old man and
 his wife, their daughters, the daughters' husbands, perhaps an

133 open and tilting, but the low hills and the forests veiled the great sweep of country, and the sun, the moon, and the horizon.

105 As soon as we were there we felt very familiar, very at
184 home. We knew quite a lot about Kung Bushmen, who in ways are different from Gikwe Bushmen—as the country is not as harsh, the Kung are a little grander, living together in larger numbers because they have veld food more abundantly, a little more extravagant with their time and their possessions. They build themselves grass huts or scherms, at least during the rains, and though they know vast sections of their country perfectly, being quite sure of the whereabouts of game and certain of the whereabouts of different types of veld food, they do not have to memorize the whereabouts of each root individually and store this information in their minds for future seasons, as the Gikwe do. The Kung are diligent and powerful hunters, although in some respects their country is harder to hunt in than the land of the Gikwe, more overgrown with brush and trees. But the Kung have metal-tipped arrows and complicated poison, and the men make a point of hunting often and well because their people love meat.

312 We knew their rolling veld with its baobab trees and hidden waters, for in Nyae Nyae the people do not have to scrape roots and suck melons, but are the possessors of deep water-holes where they can drink clear water almost all year long. We knew which stalks among the grass blades marked edible roots, and where game antelope might be found.

● 823 We knew not only the veld but the beings that live in the
T76 sky above it, and knew the beings under the earth and in the four directions. We knew where the great god lives in the east with his tree and his medicine smoke with which he makes spirits of the dead from dead people. We knew his names, for

Peoples of the Veld and Sky

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besides his usual, everyday name, Gao Na—which means ⁸²³Big Gao, Gao being simply a man's name—he has many ⁷⁷⁶other hidden, secret names that may never, never be spoken during the light of day but only at night and only then at dances. Some of these names are Haishi, Gao ha, Nao, and Gara, and if he hears one of these names being called he will come to see who called it. He does not like to be disturbed during the day, he does not like the hot sun, and if a person bothers him during the day he will make that person sick. He is called at dances and cursed for the things he does to people, and some medicine men have even seen him when they were in trace; he appeared once as a yellow mouse, once as a gray man the size of a mouse, and once as a cloud of mist, although these are not his usual forms; usually he is the size and shape of a man, but, the Bushmen say, because he is wild he is always seen far away.

We knew of his wife, whose name is Khoana, a Kung Bushman woman's name, but who is also called the "Mother of Bees," and we knew of the being who lives in the west, whose name is also Gao Na and who is both the namesake and the servant of the great god, bringing good and evil to people as the great god chooses. This god of the west can also do things to people on his own initiative, and people sometimes say that evil comes when the two gods disagree.

There is one more figure, another being who has no place, such as the east or west; another god whose relation to the gods of the east and west has not been formed. His name is Gaua; he is called by the same name as the gaua si, the spirits of the dead, and though to the Kung today his identity has become vague, we felt that he well might be an older, primal figure, a god whose being has been now infused with the gods of the east and west. Today the great god of the east is sometimes called Gaua, called by the old god's name, and

823 when he is, it is because he has brought evil, sickness, catas-
776 trophe, or death.

The old god still exists, the Bushmen know him, but his presence is diffusing; he, the old power of evil, is becoming faint, his entity obscure.

821 In the west live the *kwa kwa kwara* (knee knee nothing),
776 the people with no knees. These people have no knee joints,
823 but must stand up always. At night when the sun sets, the people with no knees catch it and kill it, for the sun is meat. They put it in a pot, and when it is cooked they tell their children to run off and play, and when the children are gone the people with no knees eat it. When the children come back, the people with no knees pick their teeth and give what they remove to the children, and then the people with no knees take the shoulder blade of the sun and throw it back into the east again, where a new sun grows and rises in the morning. If a tall man throws it you are aware of nothing, but if a short man throws it you can hear it whirring overhead. We knew a Kung Bushman man who, said he, had been to the west and had visited the people with no knees. He had been very interested to see them and very curious to know how they slept at night, for he did not imagine that they could lie down, so when darkness came he had watched and waited, and, just as he had suspected, when they had finished the sun they did not lie down but leaned against forks of the trees, where they rested, propped.

825 In the north is a great river, the Okovango, and Bantu peo-
776 ple live there. In the south live the gemsbok people, who are not ordinary gemsbok but beings in gemsbok form. It was these beings who taught the Bushmen how to make ostrich-eggshell beads, for when making a bead the gemsbok people use their long horns to bore the hole in the center. The gemsbok people often wear strings of beads around their necks.

¹⁵⁹
²²⁴ scrambled for the safety of their companions, by now quite
¹⁵⁷ far away.

The hunters, victorious in this battle of nerves, had the bull wildebeest all to themselves, but now found that they could not approach it either. Having fended off the lions (it thought), it now tried to lunge to its feet to fend off the men. Short Kwi borrowed the spear from its owner and hurled it into the wildebeest's neck, where it stuck fast. Now they had no weapon at all. Their arrows would be useless. The sticks and stones they threw at the spear did not dislodge it and all their efforts to retrieve it by creeping up on the wildebeest from behind did not succeed, for as soon as one of them would edge near enough to touch the spear the wildebeest would toss its horns so quickly that the man would have to jump back, grazed. At last, while one of the men distracted the wildebeest from the front, Short Kwi backed off and rushed at it, jumped over it, and, as he passed over its back, jerked the spear free. The bull lunged and the curved horns hooked upward, but too late. Short Kwi was gone. Wanting a picture, John asked Short Kwi to do it again, but Short Kwi shook his head. "This time he will remember," Short Kwi said, and dispatched the bull by hurling the spear into its throat.

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● ⁸²³ Sometimes, as on these occasions, Short Kwi hunted with others, but mostly he hunted alone. He knew every bush and stone in the area of thousands of square miles that he ranged over, and he lived for hunting. Caring more for this, his passion, than for society, he often hunted as he did when we had first heard of him, alone in the veld with only his wife—a young woman who was intelligent and gay and almost pretty, to whom Short Kwi was devoted—his baby daughter, and his mother-in-law.

621 composition enables bands to swell
361 during lean years, while the concept
166 of association, through a headman,
to a district and a territory provides
for the distribution of people throughout the barren land.

If a band were confined strictly to one territory, or could use the resources of another territory only over the bodies of the band that lived there, there would be many less *Nyae Nyae* !Kung—perhaps none at all.

823 The !Kung give various reasons for their preference of the territory they consider home. For some, it is where they were born. For others, it is where they spent their youth. And for some, it is where they are waiting in their old age. Hunters say they must know their territories—every pan and stretch of bush, every unusual tree—and they say that to amass such knowledge takes years. An old man we met while he was visiting for a few days from the west, said that the weather was more gentle in Debera, the place where he lived, and that, moreover, "there are no stones in Debera ground."

Early one autumn morning, blue and sweet, when dawn air was still fragile on our faces, a close !Kung friend stood beside me in /Gautcha Territory, looking across a pan that still smiled with water despite the late season. It was the pan where he had come, as a young man, to live with his bride. We were quiet, waiting for the rising sun. "/Gautcha is beautiful," he said.

LORNA MARSHALL

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square miles, centered approximately at Gautscha (about 19°48'30" S, 181
20°34'36" E). The region lies for the most part in South West Africa, but 131
extends into the Bechuanaland Protectorate to a number of Tswana and
Herero settlements along the border. We arbitrarily call this particular stretch 123
of country a region because it is a region in the minds of the Bushmen. In 162
it are some 27 bands living independently in their own traditional way and 148
9 groups employed by the Tswana and Herero—a !Kung population of
about 1000. These !Kung intermarry. They have not formally structured the 136
region as an endogamous unit, but they remain within it by custom and
preference. They know there are other !Kung-speakers living to the north 192
and northwest of them, but consider them strangers, as they do the Auen- 127
speaking and Naron-speaking Bushmen to the south.

ECONOMY

It is vividly apparent that among the !Kung 181
Bushmen, ethos, or "the spirit which actuates manners and customs," is sur- 182
vival. Their time and energies are almost wholly given to this task, for life in
their environment requires that they spend their days mainly in procuring
food. The band organization is important to their survival, and, to secure the 121
mutual support and companionship that it affords, they seek to regulate their 120
social actions to reduce tension and potential hostility among the individuals
within the band. They also strive to avoid the possibility of conflict between 128
bands. Similarly, in their religious concepts and practices, the emphasis is on 170
survival in this life on earth, not a looking forward to the eternal life in the
sky after death.

WILD PLANT FOODS (*veldkos*) • The !Kung of the Nyae Nyae region 433
have no agriculture. They subsist mainly on wild plant foods, which we re- 262
fer to by the convenient Afrikaans word *veldkos*. The game the hunters of
a band manage to kill is an important part of their diet and much desired,
but it is by no means the daily sustenance. In this region the !Kung know 222
more than a hundred different kinds of *veldkos* (cf. Story 1958). Several 262
species of berries exist, dry and hard for the most part. A few fruits ripen
suddenly in a short season. Leaves, resembling spinach, make a spring salad
for a short time. Morsels of gums from certain trees are cherished like sweets.
Tsama melons and wild cucumbers grow here but do not abound in this re-
gion as they do in some other parts of the Kalahari where some Bushman
groups can live on them for certain seasons without having access to any
water. Most important to the daily sustenance of the Nyae Nyae !Kung are
the edible underground roots, tubers, and storage organs of certain drought-
resistant plants. We observed the gathering of 23 different kinds of these;
doubtless there are more. In addition to the roots and tubers, there are sev-

142 ECONOMIC AND POLITICAL LIFE

222 A somewhat different ceremony, also connected with the collection
622 of veldkos, is held by the Kung.¹ Once a year, when the edible bulbs
[184] of the veld are beginning to ripen at the beginning of the rainy season,
the head of the band on a morning fixed by him calls together all the
inhabitants of the camp before sunrise. He then takes up some faggots
mixed with dry grass and straw, and all squat down in a circle around
him. On the ground near the firewood lies a piece of wood, in which
is bored a hole. In this hole is placed a freshly-broken twig of the wild
fig-tree. A lit pipe is handed to the headman. He takes it in both
hands, held palm to palm, and twists it about over the wood until its
burning content falls on to the grass, which becomes kindled into
flames. During this performance he repeats the following prayer to
[782] Huwe, a supernatural being: "Father, I come to you, I pray to you,
[539] please give me food and all things, that I may live." When the fire
has burned out the members of the band scatter to seek the new bulbs,
which up till now they might not touch.

222 These two ceremonies are the only ones on record indicating the
184 presence of a special cult among the Bushmen in connection with the
gathering of veldkos; but, as will be shown later, in all the Bushman
tribes there are numerous other ritual observances and beliefs which
may be regarded as centring in the sources of food supply, although
they are somewhat different in nature from the two just described.

312 Water must also be fetched every day from the waterhole. This
[462] is generally the task of the children, but if the distance is far the
[857] women go, and occasionally even the men. The water is stored in
[415] ostrich egg-shells in one end of which is bored a hole which can be
[237] plugged with grass. These are carried about in a net of woven fibre
or in skin bags. The stomach of a buck is also sometimes used as a
water-bottle.

312 The supply of water is one of the most acute problems facing the
182 Bushmen in the Kalahari and Namib Deserts. It affects their mode of
[22] life to a very considerable extent, for it not only regulates the
[621] migrations of the people, but also their cohesion, since, as we have
seen, in many cases the different families constituting a band live
together only in the rainy season, to scatter apart as soon as the dry
season returns. Moreover, upon the supply of water depends the
growth both of the veldkos and also of the grass upon which the game
lives, so that the whole subsistence of the Bushmen is intimately bound

● [823] up with it. This intimate dependence, as we shall subsequently see,

¹ Vedder, "Grammatik der !Kǃ-Buschmannsprache," 6-7.

INDUSTRIES AND TRADE

143

finds expression in the numerous observances and beliefs developed in relation to the sources of water, and especially to the rain. Here, however, we may note how the Bushmen cope in practice with this ever-present problem. 182
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823

Caches of ostrich egg-shells containing water are often buried in the ground or hidden in a tree for future use, and to steal them is one of the greatest offences in Bushmen life. When even these have been given out, a substitute is found in various succulent plants, especially the *!naras* and the *tsama*, which contain enough moisture to relieve thirst and which are still available for the first part of the dry season. In some parts of the Kalahari water may still be found below the surface at this time, and to obtain it the people make use of an ingenious filter. A hole is dug in the sand where the green colour of the grass indicates the presence of the subterranean water, and with a reed tube to the lower end of which is attached a bundle of grass they painfully suck out drop by drop the water that has collected below, then carefully transfer it to the egg-shell bottles. But when even this resource fails them, they are compelled to make hurried marches back to the permanent waterholes, to which they cling until the coming of the rainy season again enables them to move out into the sand veld and resume their normal hunting life. 312
[685]
[824]
[271]
[221]

INDUSTRIES AND TRADE

Industries

Besides their food, which they must find from day to day, the Bushmen have need of little but their weapons and utensils. Their household possessions are few, for they seldom own more than they can conveniently carry about with them, and all their industries are essentially domestic. 511

From wood they make their huts, the staves of their bows and spears, quivers for their arrows, digging-, throwing-, and firesticks, the long barbed stick used for catching spring hares and other burrowing animals, the poison sticks on which the arrow poison is gathered in lumps after it has been prepared, the spits (sometimes 322
[342]
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¹ Livingstone, *Missionary Travels*, 11; Chapman, *Travels in S. Africa*, II, 297; Passarge, *Buschmänner*, 11, 70-1, and fig.; Schultze, *Aus Namaland und Kalahari*, 671-3; Seiner, "Bereisung der Omaheke," 293-4.

² The most comprehensive account of Bushman industries is to be found in Gretschel, "Die Buschmannsammlung Hannemann," *Jh. städt. Mus. Vhds. Leipzig*, v (1911-12), 89-113, pl. xxiii-xxix, which relates chiefly to the Auen; cf. also van Rippen, "Notes on Some Bushman Implements"; Stow, *Native Races of S. Africa*, 62-80; Passarge, op. cit., 81-94; Gentz, "Beiträge zur Kenntnis der südwestafrikanischen Völkerschaften," 297-301; Kaufmann, op. cit., 152-3; Schultze, op. cit., 618 sqq.; Werner, "Ueber die Heikum- und Kungbuschleute," 257; D. F. Bleek, *Naron*, 8-18 *passim*; Fourie, "Bushmen of S.W.A.," 103. [114]

756 supernatural powers, or who are able to control, either for social purposes or for their own ends, the spiritual forces upon which the social welfare depends. There is no English word which adequately describes them, but such persons may be loosely termed magicians.

Among the Cape Bushmen, these magicians, who might be of either sex, were called /gixa (plural, /gisen). There is unfortunately [114] no information available as to how they acquired their powers, nor have we any clear description of the part they played in the life of the community. A few details about them may, however, be gathered from the texts collected by Bleek and Lloyd. Some magicians were [821] rainmakers, who went out to catch the rain bull and lead it over the land bringing rain. Others, again, had special powers over particular [825] game animals, such as the springbok or the ostrich. Some magicians were able to assume and go about in the form of animals such as the lion, springbok, jackal, or a little bird; others, even when asleep, knew what was going about at night, and took care of the people, defending them from evil magicians. For some magicians could [754] cause illness by shooting with invisible arrows, and the patients would die, even though doctored; while some were said to eat the flesh of the dead. When a magician died an earthquake took place, [823] and his heart fell, as a shooting star, out of the sky into a waterhole. His powers, however, he continued to possess even after death, [775] for there are mentioned several occasions on which a dead rain-maker was asked to send rain or a game magician to give success in hunting.¹

These beliefs, fragmentary as they are, show definitely that the magicians were held to possess supernatural powers, which they might use for good or evil; but, apart perhaps from the making of rain, there is nothing to link them up with any cult or public ceremony, or to indicate that they ever played the part of priests.

[184] Among the Naron and Auen, however, the magicians, as we have seen, function at the puberty ceremonies. They introduce *Hisha* [881] into the dances, and make the cuts between the eyebrows of the boys. Among the Naron they are also the priests, who pray to the New [793] Moon for rain; while among the Auen they make rain by sprinkling [821] on the ground a kind of red earth, which they fetch from afar and carry about with them. The magicians, both male and female, are

KNOWLEDGE OF TIMES AND SEASONS 219

eland, Castor and Pollux his wives; the Magellanic Clouds a steenbok; 184
Orion's sword three male tortoises hung upon a stick, his belt three 821
female tortoises so hung, etc. As these names indicate, there is
a good deal of folklore centring in the stars, and indeed a considerable 184
part of the vast collections of Cape Bushman lore made by Bleek 773
and Lloyd relate to the heavenly bodies, which are regarded as once 821
having been men or animals before being transformed into their
present state. In one tale, for instance, it is related that a girl of
the early race (preceding the Bushmen) wished for a little light,
so that the people might see to return home by night. She therefore
threw wood-ashes into the sky and these became the Milky Way.
In another, again, it is told how a girl, at the time of her puberty
seclusion, saw some people eating together at a dassie's house of
branches. As a result they and the house, fixed by her looks, became
stars in the sky, where they are now to be seen as the Corona
Australis.¹

The Hiechware of the Eastern Kalahari, according to Dornan, 184
also "have considerable acquaintance with various groups or 821
prominent stars, and have names for them", but the only one
mentioned by him is the Southern Cross, referred to as the "giraffe
star" and said to be somewhat like this animal in appearance.²

For shorter lengths of time the Bushmen go by the Moon, but 805
they make no attempt to reckon how many moons there are in the
year or in a season.³ They observe the phases of the Moon closely, 821
but seem to have no division of time into anything corresponding
to weeks, although they readily pick up the European system of weeks 177
when working for white people, and will come regularly on the
seventh day for tobacco, etc. Otherwise, in their intercourse with 648
white people, the wage, if not given daily, is demanded at the
New Moon.⁴

The day is apparently divided according to the position of the
sun, but no names have been recorded for any fixed divisions or parts
of the day.

The notion of time is also used to indicate distance, for which there 804
are no special units. Generally distance is reckoned by the time it 805
823

¹ Bleek, *Bushman Texts*, 10 sq.

² *Pygmies and Bushmen*, 161.

³ Lebaeier says, however ("Bei den [Kush-Buschleuten," 11) that the Eastern Kung have
a "vegetation year" of 10 months. The year is reckoned from one veldkos harvest to another.
He omits to give any further details.

⁴ D. F. Bleek, *Noran*, loc. cit.; *idem*, "Bushmen of Central Angola," loc. cit.; Kaufmann,
loc. cit.

804 takes to reach the place. If, for instance, a Bushman is asked how far a
 805 certain waterhole is, he points to the part of the sky which the sun
 823 will have reached by the time one gets to that waterhole; or, if it is
 far, he says: "One night on the way," or "two", etc.; or, again,
 if asked the length of a journey, he will name the places at which he
 slept or will sleep, touching a finger to his lips for each, then hold up
 the fingers, saying: "So many nights" (not days).¹

802 In counting, they use only the numerals one and two quite
 177 freely. Three they sometimes use, taking the Nama word for it,
 although they are more apt to speak of "two and one" than "three".
 For anything above three they generally make use of the word
 "many", although by the Northern Bushmen Nama or Bantu
 numerals may sometimes be substituted. These higher numerals,
 however, are evidently picked up from their neighbours by ear, and
 repeated without much consideration of their value, as, says Miss Bleek,
 a child of three will count in imitation of its seniors, varying the
 sequence of numerals each time. In some cases, among both the Cape
 802 Bushmen and several of the North-Western tribes, such formations
 [803] are also found as $4 = 2 + 2$, $5 = 2 + 2 + 1$, and so on up to ten.
 The numeral system of the Bushmen is thus essentially binary in
 principle. Occasionally, however, modifications occur suggestive of
 a quinary system. Thus in Naron the words for "four" mean "two
 fingers and two fingers", but "five" is "hand" (sometimes, how-
 ever $2 + 2 + 1$ fingers), "ten" is "both hands", "fifteen" "both
 hands, one foot"; and the same system occurs in Auen. As these
 words indicate, the Bushmen count larger numbers on their fingers.
 In counting, they begin with the little finger of the left hand, touching
 each finger in turn on the lips, then continue in the same manner from
 the thumb of the right hand. As a rule, it may be added, nothing that
 they want to count exceeds ten, indeed, hardly ever reaches that
 numeral!²

¹ D. F. Bleek, *Naron*, 38; *idem*, "Bushmen of Central Angola," loc. cit.; Kaufmann, loc. cit.

² D. F. Bleek, loc. cit.; Kaufmann, loc. cit.; cf. Schmidl, "Zahl und Zählen in Afrika," *Mitt. anthrop. Ges. Wien*, xlv (1915), pp. 194-5, for a useful summary sketch of Bushman numeral systems.

[pp. 221-446 not processed
 for the FX10 Bushmen file.
 see category 116, FX13 Hottentot]